REMARKS

The present amendment is submitted in response to the Office Action dated March 2, 2007. Claims 1-15 are currently pending in the application. Claims 1, 5 and 6 have been amended and claims 3 and 4 have been canceled. Claims 8-15 are new claims. Applicants would like to specifically draw Examiner's attention to newly amended claim 1 and new claims 8 and 14 which incorporate the subject matter of claims 3 and 4. No new matter or issues are believed to have been introduced by this amendment. In view of the above amendments and the following remarks, reconsideration and allowance of this application are respectfully requested.

Information Disclosure Statement

The Applicants would like to thank the Examiner for considering the IDS of March 24, 2004 and include a new IDS disclosing previously unconsidered documents.

Claim Rejection – 35 USC § 102

In the Office Action, claims 1, 2 and 7 were rejected under 35 USC §102(b) as being anticipated by Klicek '403 (U.S. Pat. No. 6,210,403). The newly amended independent claim 1 recites:

> A system for controlling an output of an electrosurgical generator comprising:
> a drive circuit for generating an output, the output being responsive to a feedback signal and operatively coupled to at least one electrode of the electrosurgical generator;
> at least one sensing circuit operatively coupled to the at least one electrode for generating <u>a first signal corresponding to a value of a voltage waveform present on the at least one electrode and a second signal corresponding to a value of a</u>

current waveform present on the at least one electrode;
a processing circuit for receiving the first and second
signals, the processing circuit implements the Goertzel
algorithm for determining a phase of each of the voltage
waveform and the current waveform;
a determining circuit in communication with the
processing circuit for generating an output signal as a function
of a phase difference between the voltage waveform and the
current waveform; and
a control circuit for generating a feedback signal, the
feedback signal representative of a difference between a value
of the output signal and a reference value, the feedback signal
operatively coupled to the drive circuit. (Emphasis added).

Klicek '403 does not disclose a processing circuit which "implements the Goertzel algorithm for determining a phase of each of the voltage waveform and the current waveform" and "a determining circuit in communication with the processing circuit for generating an output signal as a function of a phase difference between the voltage waveform and the current waveform" as recited in newly amended independent claim 1. Klicek '403 discloses a system and method for automatic control and/or adjustment of an electrosurgical generator based on measured tissue impedance. (*See* Klicek '403, Abstract). Klicek '403 includes a clock 23 and a counter 38 which calculate total amount of energy delivered to tissue on a per packet basis. The adjustments to the generator are made based on a comparison by comparators 27 and 39 between the calculated amount and a preset amount of energy. The only similarity between Klicek '403 and the present disclosure is that Klicek '403 is also directed to automatic control of an electrosurgical generator. However, Klicek '403 does not disclose, teach or suggest adjusting an output of the electrosurgical generator based on the phase difference between voltage and current waveforms. Accordingly, the rejection under 35 USC 102(b) of independent claim 1 and

claims 2 and 7 which depend therefrom should be respectfully withdrawn.

Claim Rejection – 35 USC § 103

Claims 3-6 were rejected under 35 USC §103(a) as being unpatentable over Klicek '403 in view of Klicek '596 (U.S. Pat. No. 5,372,596) in further view of Ogden ("Goertzel Alternative to the Fourier Transform"). The Examiner stated that Klicek '403 did not disclose the "use of a Goertzel Algorithm for determining a phase difference between waveforms to control the feedback to the drive source." (Office Action, p. 3). To correct this deficiency, the Examiner cited Klicek '596 which teaches "to provide phase difference comparisons to compensate for the energy delivery to the operating site." (Id.). Since Klicek '596 also fails to specifically disclose using the Goertzel Algorithm for using to determine frequency characteristics of signals, the Examiner cited Ogden to correct that deficiency.

It is, however, respectfully submitted that none of the cited references disclose "a processing circuit for receiving the at least one first and second signals, wherein the processing circuit implements the Goertzel algorithm for determining a phase of each of the voltage waveform and the current waveform" as recited in independent claim 1. Klicek '403 does not even disclose calculation of the phase difference. In fact, Klicek '596 provides for determining of a shift change between voltage and current, according to the following formula, wherein θ is the phase angle of the shift, $\cos \theta = ((Vmax)^2 + (Imax)^2 - (V*I) max2) /2*Vmax*Imax$. (*See* Klicek '596, col. 6, lines 2-3). As this formula demonstrates, Klicek '596 does not determine "a phase of each of the voltage waveform

and the current waveform," instead the formula is used to obtain directly the phase shift between two waveforms.

Ogden also fails to disclose determining "a phase of each of the voltage waveform and the current waveform" as recited in independent claim 1. Ogden simply provides C language code for the Goertzel algorithm and does not disclose the calculations necessary to determine the phase of the waveform, and specifically the phases of each of the voltage and current waveform.

The combination put forth by the Examiner lacks suggestion and motivation to modify or combine Klicek '403 with Klicek '596 and Ogden. None of the references teach, suggest, or disclose of using the Goertzel algorithm to determine the phase of each of voltage and current waveforms. The formula implemented in the Klicek '596 generator is used to determine the phase difference without calculating the phase between two waveforms. Ogden simply provides for digital implementation of the Goertzel algorithm and does not disclose how to calculate the phase of the waveforms using the algorithm. Klicek '403 does not disclose or suggest determining the phase difference between voltage and current waveforms. Accordingly, for at least the same arguments with respect to claim 1, the rejection under 35 USC 103(a) of claim 3-6 which depend therefrom should be withdrawn.

New independent claims 8 and 14 include a similar recitation as claim 1, namely, claim 8 recites:

> at least one sensing circuit operatively coupled to the at
> least one electrode that generates a first signal corresponding
> to a value of a voltage waveform present on the at least one

electrode and a second signal corresponding to a value of a current waveform present on the at least one electrode;

a processing circuit that receives the first and second signals, wherein the processing circuit implements the Goertzel algorithm for determining a phase of each of the voltage waveform and the current waveform; and

a determining circuit in communication with the processing circuit that generates an output signal as a function of a phase difference between the voltage waveform and the current waveform. (Emphasis added).

Claim 14 recites a method for controlling an electrosurgical generator comprising the steps of:

generating a first signal corresponding to a value of a voltage waveform present on the at least one electrode and a second signal corresponding to a value of a current waveform present on the at least one electrode;

processing the first and second signals using the Goertzel algorithm to determine a phase of each of the voltage waveform and the current waveform; and

generating an output signal as a function of a phase difference between the voltage waveform and the current waveform. (Emphasis added).
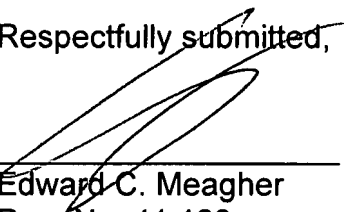
Accordingly, independent claims 8 and 14 and claims 9-13 and 15 which respectively depend therefrom are believed to be allowable over cited prior art references.

Conclusion

Should the Examiner believe that a telephone interview may facilitate prosecution of this application, the Examiner is respectfully requested to telephone Applicants' undersigned representative at the number indicated below.

Please charge any deficiency as well as any other fee(s) that may become due under 37 C.F.R. § 1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s), to Deposit Account No. 21-0550.

Respectfully submitted,

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